WINDBREAK/SHELTERBELT ESTABLISHMENT

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - practice code 380

WINDBREAK/SHELTERBELT ESTABLISHMENT

Windbreaks and shelterbelts are single or multiple rows of trees or shrubs planted for environmental purposes.

PRACTICE INFORMATION

This practice can be used in any area where woody plants are suited. The specie, location, layout, and density of the planting depends on the purpose and planned function of the practice.

In areas where natural precipitation is too low for establishment of suitable woody species, moisture conservation or supplemental irrigation should be planned.

The effectiveness of a windbreak or shelterbelt is dependent on the height of the mature plants. Therefore, this is a long term proposition that may take 20 years to become fully functional.

This is a multipurpose practice that will serve one or more of the following functions:

1. Reduce wind erosion
2. Protect growing plants
3. Manage snow
4. Provide shelter for structures and livestock
5. Provide wildlife food and cover
6. Provide tree or shrub products
7. Provide living schreens
8. Improve aesthetics
9. Improve moisture use efficiency

Additional information including standards and specifications for this practice are available in the NRCS Field Office Technical Guide.

The following pages contain the conservation effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. Users are cautioned that these effects are estimates that may or may not apply to a specific site.

CONSERVATION PRACTICE PHYSICAL EFFECT WORKSHEET

NOTE: *recorded in Microsoft word 6.0 - use tabs to change cells/fields*

STATE	Iowa	FIELD OFFICE		DATE	12/5/96

PRACTICE: 380 Windbreak/shelterbelt Establishment	NOTES:
RESOURCE: SOIL **RESOURCE CONCERN: EROSION**	**Help Message: Click on form field for choice lists. Tab key to move around. "N/A" is the default.**
RESOURCE INDICATORS	**PHYSICAL EFFECTS**
SHEET AND RILL	insignificant
WIND	significant reduction in wind erosion
EPHEMERAL GULLY	insignificant
CLASSIC GULLY	insignificant
STREAMBANK	insignificant
IRRIGATION INDUCED	insignificant
SOIL MASS MOVEMENT	insignificant
ROADBANK/CONSTRUCTION	N/A
OTHER	
RESOURCE CONCERN: **SOIL CONDITION**	
SOIL TILTH	insignificant
SOIL COMPACTION	insignificant
SOIL CONTAMINATION	
• SALTS	N/A
• ORGANICS	N/A
• FERTILIZERS	N/A
• PESTICIDES	N/A
• OTHER	
DEPOSITION/DAMAGE	
• ONSITE	N/A
• OFFSITE	N/A
DEPOSITION/SAFETY	
• ONSITE	N/A
• OFFSITE	N/A
OTHER	
RESOURCE: **WATER** RESOURCE CONCERN: **WATER QUANTITY**	
SEEPS	insignificant
RUNOFF/FLOODING	insignificant
EXCESS SUBSURFACE WATER	insignificant
INADEQUATE OUTLETS	insignificant
WATER MGT. IRRIGATION	
• SURFACE	slight improvement in irrigation efficiency
• SPRINKLER	moderate improvement in irrigation efficiency
WATER MGT. NON-IRRIGATED	moderate improvement in moisture use
RESTRICTED FLOW CAPACITY	
• ONSITE	N/A
• OFFSITE	N/A
RESTRICTED STORAGE	insignificant
OTHER	

RESOURCE: **WATER** RESOURCE CONCERN**: WATER QUALITY**	
RESOURCE	**PHYSICAL EFFECTS**
GROUNDWATER CONTAMINANTS	
• PESTICIDES	N/A
• NUTRIENTS AND ORGANICS	N/A
• SALINITY	N/A
• HEAVY METALS	N/A
• PATHOGENS	N/A
• OTHER	
SURFACE WATER CONTAMINANTS	
• PESTICIDES	insignificant
• NUTRIENTS AND ORGANICS	insignificant
• SUSPENDED SEDIMENTS	insignficant
• LOW DESOLVED OXYGEN	insignificant
• SALINITY	insignificant
• HEAVY METALS	insignificant
• WATER TEMPERATURE	insignificant
• PATHOGENS	insignificant
AQUATIC HABITAT SUITABILITY	slight improvement in Aqua. Hab. Suit.
OTHER	
RESOURCE: **AIR** RESOURCE CONCERN: **AIR QUALITY**	
AIRBORNE SEDIMENT AND SMOKE PARTICLES	
• ONSITE SAFETY	sign. decrease in airborn sed.&smoke part./safety
• OFFSITE SAFETY	sign. decrease in airborn sed.&smoke part./safety
• ONSITE STRUCT. PROBLEMS	sign. decrease in struc. problems/dust and smoke
• OFFSITE STRUCT. PROBLEMS	sign. decrease in struc. problems/dust and smoke
• ONSITE HEALTH	sign. decrease in onsite health prob./dust&smoke
• OFFSITE HEALTH	sign. improvement in offlsite health
AIRBORNE SEDIMENT CAUSING CONVEYANCE PROBLEMS	sign. decrease in airborn sediment/convey. prob.
AIRBORNE CHEMICAL DRIFT	sign. decrease in airborn chem. drift
AIRBORNE ODORS	sign. decrease in airborn odors
FUNGI, MOLDS, AND POLLEN	insignificant
OTHER	
RESOURCE CONCERN: **AIR CONDITION**	
AIR TEMPERATURE	moder. improvement in air condition/ temperature
AIR MOVEMENT (windbreak effect)	moder. improvement in air condition/ air movement
HUMIDITY	moder. improvement in air condition/ humidity
OTHER	

RESOURCE: **PLANT** RESOURCE CONCERN: **SUITABILITY**	
RESOURCE	**PHYSICAL EFFECTS**
SITE ADAPTATION	slight improvement in plant suitability/site adapt
PLANT USE	insignificant
OTHER	
RESOURCE CONCERN: **CONDITION**	
PRODUCTIVITY	moder. improvement in plant cond./ productivity
HEALTH, VIGOR, SURVIVAL	moder. improvement in plant health,vigor,survival
OTHER	
RESOURCE CONCERN: **MANAGEMENT**	
ESTAB., GROWTH, HARVEST	slight improvement in plant estab.,growth,harvest
NUTRIENT MANAGEMENT	N/A
PESTS	N/A
THREAT/ENDANGERED PLANTS	N/A
OTHER	
RESOURCE: **ANIMAL** RESOURCE CONCERN: **HABITAT**	
FOOD	sign. improvement in animal habitat/food supply
COVER/SHELTER	sign. improvement in animal habitat/cover,shelter
WATER (QUANTITY & QUALITY)	insignificant
OTHER	
RESOURCE CONCERN: **MANAGEMENT**	
POPULATION BALANCE	sign. improvement in animal mgt./pop. balance
THREAT/ENDANGERED ANIMALS	insignificant
HEALTH	N/A
OTHER	
RESOURCE: **HUMAN** RESOURCE CONCERNS**: ECONOMIC CONSIDERATIONS**	
PLAN / COST EFFECTIVENESS	moderately cost effective
CLIENT FINANCIAL CONDITION	moderately cost effective
MARKETS FOR PRODUCTS	N/A
AVAILABLE LABOR	insignificant
AVAILABLE EQUIPMENT	insignificant

RESOURCE: **HUMAN** RESOURCE CONCERN: **SOCIAL CONSIDERATIONS**	
RESOURCE INDICATORS	**PHYSICAL EFFECTS**
PUBLIC HEALTH AND SAFETY	slight improvement in public health & safety
PRIVATE/PUBLIC VALUES	sign. improvement in private/public values
CLIENT CHARACTERISTICS	N/A
RISK TOLERANCE	N/A
TENURE	N/A
OTHER	
RESOURCE CONCERN: **CULTURAL CONSIDERATIONS**	
ABSENCE/PRESENCE OF CULTURAL RESOURCES	insignificant
SIGNIFICANCE OF CULTURAL RESOURCES	insignificant
MITIGATION OF NEGATIVE CULTURAL RES. IMPACTS	N/A
OTHER	